Docket No.: 030048125US
Client Ref No. 03-1458

(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Griffin et al.

Application No.: 10/798,588 | Confirmation No.: 6349

Filed: March 10, 2004 | Art Unit: 3661

For: METHOD AND SYSTEMS FOR AUTOMATICALLY DISPLAYING INFORMATION, INCLUDING AIR TRAFFIC CONTROL INSTRUCTIONS | Examiner: B. J. Broadhead

DECLARATION OF JOHN C. GRIFFIN, III, GORDON R. SANDELL, PETER D. GUNN AND CHARLES A. PULLEN UNDER 37 C.F.R. § 1.131

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

We, John C. Griffin, III, Gordon R. Sandell, Peter D. Gunn and Charles A. Pullen, declare and state that:

1. We are joint inventors of the invention described and claimed in U.S. Patent Application No. 10/798,588 filed March 10, 2004. This Declaration establishes invention (conception and reduction to practice by building and testing a prototype) in this country before September 16, 2003, and thus before the U.S. filing date of U.S. Application No. 10/489,102 to Subelet (Pub. No. US2004/0254691A1).

2. Before September 16, 2003, we conceived and reduced to practice the invention currently presented in the above-captioned patent application. Our conception and reduction to practice of the invention are corroborated by (a) a redacted and excerpted pages from a Powerpoint presentation by inventor John C. ("Jack") Griffin dated before

September 16, 2003, titled "7E7 Dreamliner – The Case for Two-Line MCP Digital Display" (hereinafter the "Presentation," attached to this Declaration as Exhibit A); and (b) a redacted and excerpted set of notes recorded at a demonstration of a prototype display system, conducted before September 16, 2003 (hereinafter "Session Notes," attached to this Declaration Exhibit B).

3. Aspects of our invention are directed to systems and methods for handling incoming operation instructions for an aircraft. Particular aspects include receiving an instruction from a source off-board an aircraft, and automatically displaying at least a portion of the instruction at a series of aircraft displays without the instruction being manually regenerated onboard the aircraft and without the instruction becoming part of a flight plan list of automatically executed flight segments. The Presentation and the Session Notes disclose features of the foregoing methods and systems, and evidence their reduction to practice.

4. As shown in the Presentation and the Session Notes, we conceived of a system and method for handling incoming aircraft operation instructions. In one embodiment, such as is set forth in claim 1, the method includes receiving from a source off-board an aircraft an instruction for changing a characteristic of the aircraft (Exhibit A, page 3, see communications panel display containing instruction to "CLIMB AND MAINTAIN FL310") and automatically displaying at least a portion of the instruction at a first display location of the aircraft (Id.). The method can further include, in response to receiving a first input signal directed by an operator onboard the aircraft (Exhibit A, see box labeled "Pilot Selects "Load MCP""), displaying at least a target portion of the instruction in a second display location (Exhibit A, page 3, see lower MCP window display with numerals "31000") without the instruction being manually generated onboard the aircraft and without the instruction becoming part of the flight plan list of automatically executed flight segments. The method can still further include, in response to receiving a second input signal directed by an operator (Exhibit A, page 3, see box labeled "Pilot Selects Transfer Switch On MCP"), displaying at least a target portion of the instruction at a third display location (Exhibit A, page 3, see upper MCP window display with numerals "31000") without the instruction being manually generated onboard the aircraft.

5. We also conceived further aspects of methods and systems for handling incoming aircraft operation instructions. For example, with respect to claims 2, 12, 18 and 33, we conceived of the first display location as corresponding to a communications display of the aircraft (Exhibit A, page 3, panel display containing instruction to "CLIMB AND MAINTAIN FL310"), the second display location corresponding to a preview display of a mode control panel of the aircraft (Exhibit A, page 3, see lower MCP window display with numerals "31000"), and the third display location corresponding to an active display of the mode control panel (Exhibit A, page 3, see upper MCP window display with numerals "31000"). With respect to claims 8 and 22, we conceived of the instruction as having at least one of a target altitude, a target speed, and a target direction (Exhibit A, page 1, indicating MCP windows with preview and active values for speed, heading, and altitude).

6. After conceiving this invention, we reduced the invention to practice by using a flight deck validation tool to prototype embodiments of the foregoing systems and methods (Exhibit A, page 3, reference to "RaPiDs"). The RaPiDs program allows flight display techniques to be prototyped by simulating the receipt of off-board instructions, and using software coding in an environment that includes displays and input devices representative of those found on actual aircraft flight decks to receive pilot inputs and present pilot displays.

7. Using the RaPiDs prototyping program to receive pilot inputs and provide corresponding displayed information, we demonstrated, tested and evaluated a method in accordance with the foregoing embodiments, using a prototype operated by an FAA-certified commercial transport pilot (Exhibit B, page 1, identifying Captain Bill Royce as participating in the RaPiDs session). The tester conducted an evaluation, and provided comments on the crew procedure for moving information from a lower to an upper MCP window, e.g., from a second display location to a third display location (Exhibit B, page 2).

8. We further declare that all statements herein made of our own knowledge are true, and that all statements made on information or belief are believed to be true; and further, that the statements are made with the knowledge that the making of willful or false statements or the like is punishable by fine or imprisonment, or both, under Section 1001

of Title 18 of the United States Code, and may jeopardize the validity of any patent issuing from this patent application.

Dated this 30th day of August, 2006.

John C. Griffin, III

Residence : University Place, County of Pierce
State of Washington

Citizenship : United States

P.O. Address :

Gordon R. Sandell

Residence : Bothell, County of Snohomish
State of Washington

Citizenship : United States

P.O. Address :

Peter D. Gunn

Residence : Bellevue, County of King
State of Washington

Citizenship : United States

P.O. Address :

Charles A. Pullen

Charles A. Pullen

Residence : Bellevue, County of King
State of Washington

Citizenship : United States

P.O. Address :

Attorney Docket No. 030048125US
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EXHIBIT A

7E7 Dreamliner

The Case for Two-Line MCP Digital Display

Jack Griffin
Flight Deck – Crew Ops – [redacted]

Boeing Proprietary

Proposal

Revised Design of 7E7 MCP to provide space for two-line display of Speed, Heading, and Altitude [redacted]

Enabling Items (software) to Complete the Improved Pilot Interface

- ATC Clearance Monitoring Compliance
  (Boeing Invention Disclosure Cornell et al)
- ATC Conditional Clearance Handler
  (Boeing Invention Disclosure Sandell et al)

Preliminary Implementation Proposal

Immediate Clearance

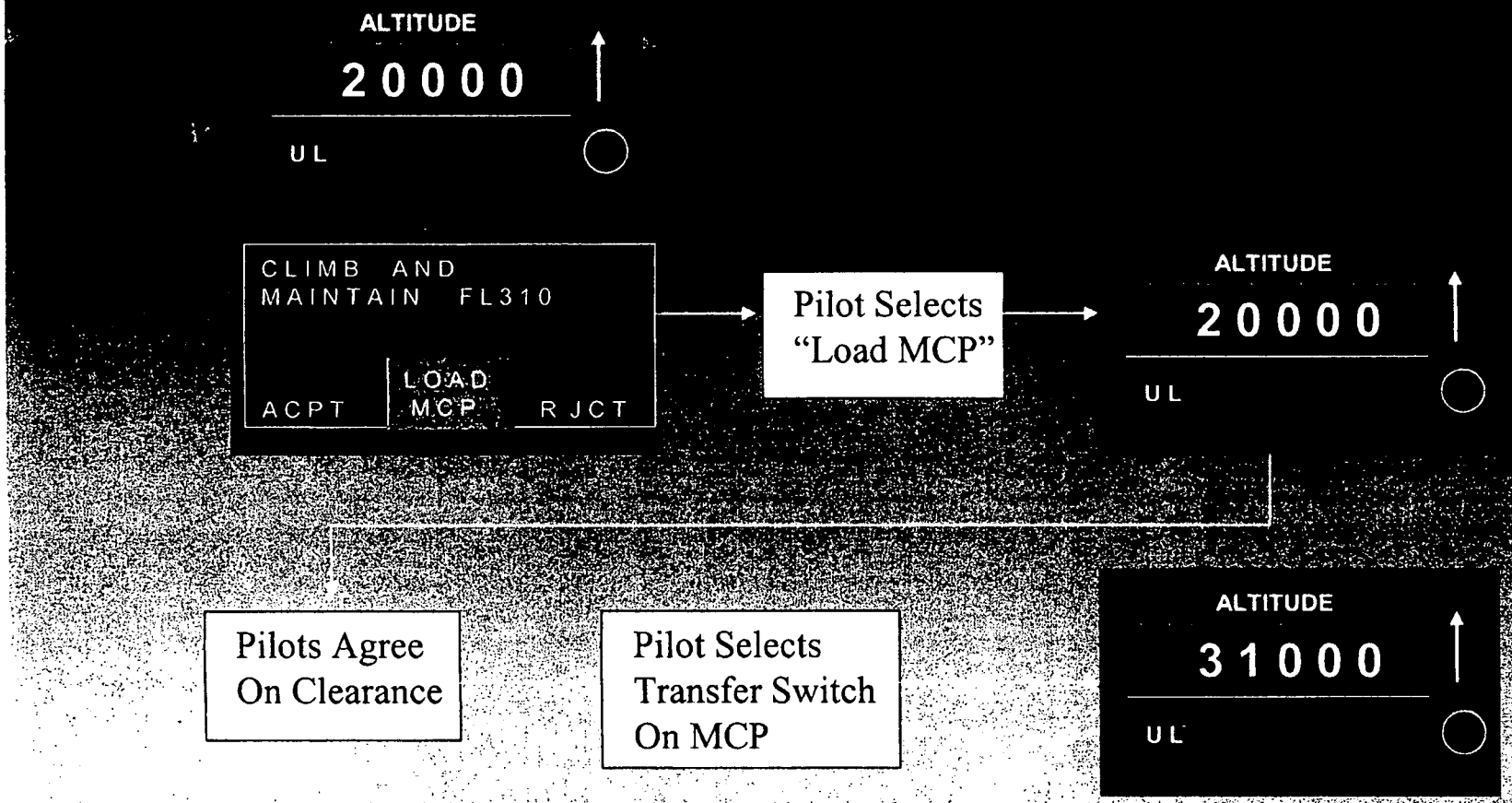

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EXHIBIT B

Session Notes
[redacted] Rapids Demo
Capt. Bill Royce

Attendees:
Bill Royce
Mike Carriker
John Wiedemann
Dan Boorman*
Jason Hammack
Sherwin Chen*

*Note takers

Comments/observations

Map

MCP

For commonality and MFF, keeping MCP same as 777 is really important. Undesirable to move any switches around to accommodate 2-line windows.

Proposed procedure for using lower windows on MCP has too many non-value added steps: 1) Accept 2) Load ATC 3) Transfer from lower to upper window. Automatically load into lower window with no pilot action. Transferring to upper window also sends Accept message. Only one pilot action instead of three.

CDU

Training and MFF

General Comments and Summary